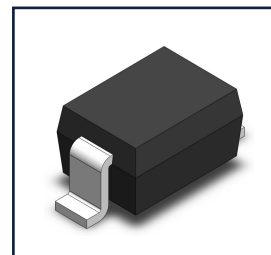


## General description

The ESD3Z5.0C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time , make these parts ideal for ESD protection on designs where board space is at a premium.

## Features and benefits

- Bidirectional ESD protection of one line
- Reverse stand-off voltage: 5.0V Max
- Low leakage current: nA Level
- Response time is typically < 1 ns
- Low clamping voltage:  $V_C < 10\text{ V @ IPP} = 11\text{ A}$
- ESD Protection: 30kV(air)/ 30kV(contact) ( IEC61000-4-2)
- RoHS compliant



SOD323

## Application information

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks,Desktops,and Servers

## Ordering information

| Device    | Package | Reel Size | Qty(PCS) |
|-----------|---------|-----------|----------|
| ESD3Z5.0C | SOD323  | 7 Inch    | 3000     |

## Ordering information

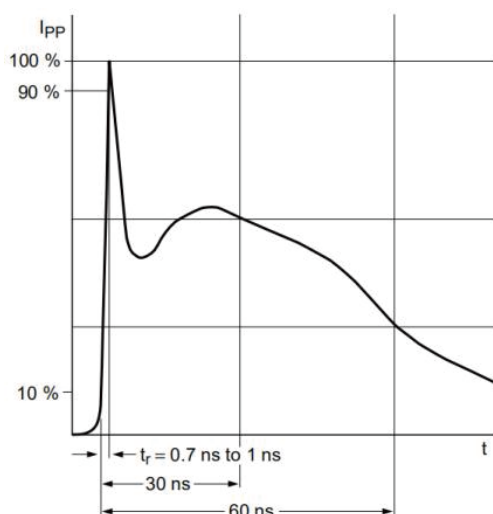
| Marking | Naming rule | Graphic symbol |
|---------|-------------|----------------|
| 3M      |             |                |

## Maximum Ratings ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)

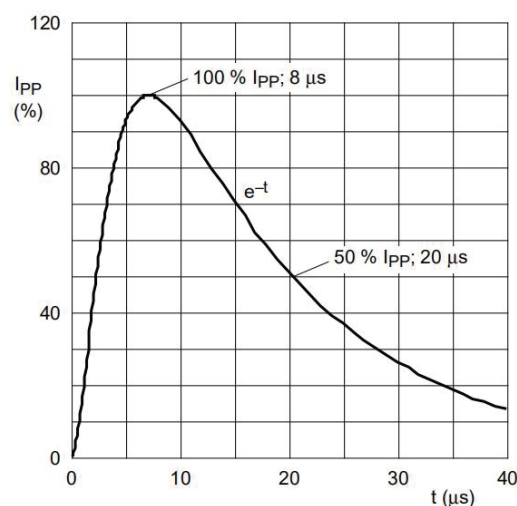
| Parameter                                         | Symbol    | Value       | Unit             |
|---------------------------------------------------|-----------|-------------|------------------|
| Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )      | $P_{PPM}$ | 110         | W                |
| Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ )    | $I_{PPM}$ | 11          | A                |
| ESD voltage IEC 61000-4-2 (air discharge)         | $V_{ESD}$ | 30          | kV               |
| ESD voltage IEC 61000-4-2 (contact discharge)     | $V_{ESD}$ | 30          | kV               |
| Maximum lead temperature for soldering during 10s | $T_L$     | 260         | $^\circ\text{C}$ |
| Storage Temperature Range                         | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |
| Operating Temperature Range                       | $T_{OP}$  | -40 to +125 | $^\circ\text{C}$ |

## Electrical Characteristics ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)

| Parameter                  | Symbol    | Min | Typ | Max  | Unit | Condition                                    |
|----------------------------|-----------|-----|-----|------|------|----------------------------------------------|
| Reverse Working Voltage    | $V_{RWM}$ | --  | --  | 5.0  | V    |                                              |
| Breakdown Voltage          | $V_{BR}$  | 6.5 | --  | 8.5  | V    | $I_T = 1\text{mA}$                           |
| Leakage Current $I_{Leak}$ | $I_R$     | --  | --  | 100  | nA   | $V_{RWM} = 5.0\text{V}$                      |
| Clamping Voltage           | $V_C$     | --  | --  | 7.0  | V    | $I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$  |
|                            |           | --  | --  | 10.0 |      | $I_{PP} = 11\text{A}, t_p = 8/20\mu\text{s}$ |
| Junction Capacitance       | $C_J$     | --  | 20  | 25   | pF   | $V_R = 0\text{V}, f = 1\text{MHz}$           |



IEC61000-4-2 Waveform

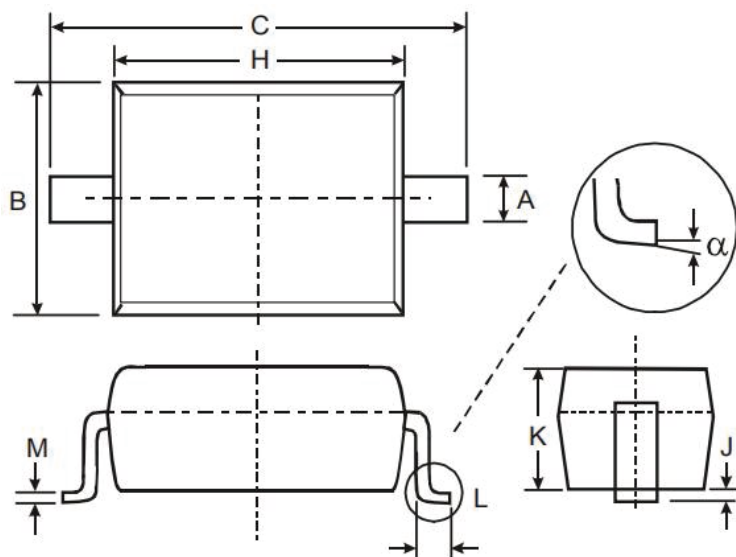


IEC 61000-4-5 Waveform (8/20 $\mu\text{s}$  pulse)



## Package Outline Dimensions

SOD323



| SYMBOL   | MILLIMETERS |      |
|----------|-------------|------|
|          | MIN         | MAX  |
| A        | 0.25        | 0.35 |
| B        | 1.20        | 1.40 |
| C        | 2.40        | 2.70 |
| H        | 1.60        | 1.80 |
| J        | 0.01        | 0.15 |
| K        | 0.80        | 1.00 |
| L        | 0.20        | 0.40 |
| M        | 0.08        | 0.15 |
| $\alpha$ | 0°          | 8°   |

## Soldering Footprint (mm)

